



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/501,225

02/04/2005

Joannes Leonard Linden

310.1040

3797

20311 7590 12/31/2008  
LUCAS & MERCANTI, LLP  
475 PARK AVENUE SOUTH  
15TH FLOOR  
NEW YORK, NY 10016

EXAMINER

LIGHTFOOT, ELENA TSOY

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

12/31/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,225	<b>Applicant(s)</b> LINDEN ET AL.	
	<b>Examiner</b> Elena Tsoy Lightfoot	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 11, 13-16 and 23-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 and 17-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/12/04</u> . | 6) <input type="checkbox"/> Other: _____  |

***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-22 and species A(i) directed to metal-carbon, metal-nitrogen, metal-halide, and/or metal-oxygen bonds (claims 10 and 12), and B(vi) directed to an organometal compound (claim 17), in the reply filed on November 14, 2008 is acknowledged. The traversal is on the ground(s) that Claim 1 recites that the hybrid coating includes a precursor for an inorganic component having nanoparticles. Yamada (US 5,024,927), however, does not teach or suggest a precursor for an inorganic component having nanoparticles. As such, Applicants respectfully submit that all species should be examined together because Yamada does not teach or suggest a precursor for an inorganic component having nanoparticles. Applicants reserve the right to rejoin the non-elected species upon allowance of a generic claim. This is not found persuasive because the special technical feature common to all the independent claims is *precursors* for inorganic component (i.e. **precursor** for depositing nanoparticles, not nanoparticles themselves, as argued by Applicants) that are combined with an organic component before they are deposited on the substrate by CVD as a hybrid coating, as claimed by claim 1, and which is shown to be anticipated Yamada.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-31 are pending in the application. Claims 11, 13-16 and 23-31 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Abstract***

1. The abstract of the disclosure is objected to because of typographical error in a phrase “**aan** inorganic component”. Correction is required. See MPEP § 608.01(b).

Art Unit: 1792

***Claim Objections***

2. Claims 8, 10, 16-22 are objected to under 37 CFR 1.75(c) as being in improper form because multiple dependent claims 8, 10, 12, 17-22 depend on multiple dependent claims 6, 8, 10, 12, 17-21. A multiple dependent claim shall not serve as a basis for any other multiple dependent claims. See MPEP § 608.01(n).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10, 12 and 17-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamada et al (US 5024927).

Yamada et al discloses a method for applying a film of a *carbon-based* material (claimed organic component) in which finely-divided metallic particles having particle size of 50 nm or less, preferably 30 nm or less (claimed inorganic component comprising nanoparticles) (See column 11, lines 48-50) are *dispersed* (claimed hybrid coating) can be formed any one of the known methods such as *co-vapor* deposition, and *plasma* CVD of an organic material and

Art Unit: 1792

halogenated metallic compound ( (See column 11, lines 36-45). Note that in the process of Yamada et al, the precursors for the inorganic and organic components are activated in one plasma source and the activated precursors are combined before they are deposited on the substrate from the chemical vapor phase for forming the coating, as required by Claim 1.

As to claims 2-9, 18-22, limitations of these claims are not addressed as further limiting *optional* two or more plasma sources.

As to claims 10, 12, 17, Yamada et al teaches that the organic matrix and finely-divided metallic particles are simultaneously prepared from organic metallic compound as a *single* starting material (i.e. as a precursor for inorganic component and as a precursor for organic component) (See column 6, lines 41-47). Examples of such an organic metallic compound include organo*aluminum* compounds such as trimethyl aluminum, triethyl aluminum and triisobutyl aluminum, organosilane compounds such as tetramethyl silane, tetraethyl silane, tetrapropyl silane and tetrabutyl silane, organo*tin* compounds such as tetramethyl tin, tetraethyl tin, tetrapropyl tin and tetrabutyl tin and organo*zinc* compounds such as dimethyl zinc and diethyl zinc (See column 6, line 48 to column 7, line 14). In addition, halogenated organometallic compounds can also be employed, which are prepared by substituting some or all hydrogen atoms of the above-described organometallic compounds with halogen atoms such as fluorine atoms, chlorine atoms, bromine atoms or iodine atoms (See column 7, lines 15-21).

As to claim 20, the plasmas are formed by bringing a mixture of precursor material, argon gas and optionally oxygen (See column 6, lines 34-36) to electrical discharge (See column 7, lines 21-26).

Art Unit: 1792

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy Lightfoot whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy Lightfoot, Ph.D.  
Primary Examiner  
Art Unit 1792

December 31, 2008

/Elena Tsoy Lightfoot/